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## Distribution and subspeciation of the Biscutate Swift *Streptoprocne biscutata*

by Helmut Sick

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The Biscutate Swift, collected by J. Natterer in southeastern Brazil, was described by P. L. Sclater as *Chaetura biscutata*, following Natterer's suggestion in his MS not to consider it as merely a variety of *C. zonaris* (Shaw). The topotypical material came from 'Rio de Janeiro and Ypanema', the latter now situated within the city of São Paulo at 23°33'S, 46°38'W. The species occurs sporadically in eastern Brazil, extending to Misiones, Argentina. Until recently it has been considered uncommon; there are few specimens in collections. Thus it came as a great surprise to learn in 1973 that in northeastern Brazil the Biscutate Swift gathers in very big flocks, and that for centuries their droppings, collected from the cave where they roost, have been used as a fertilizer (Sick 1985).

The swifts come to a certain area in Rio Grande do Norte (Seridó) as migrants, between February and October, corresponding to the southern winter. In August 1986 we estimated 8–10,000 and in 1987 90–100,000 individuals entering the cave. There is no evidence of their breeding in northeastern Brazil. The people of Rio Grande do Norte believe they come from Africa or from Peru. A similar legend is told about the Eared Dove *Zenaida auriculata*—with more reason in the case of the doves, which are sometimes found dead on the beaches of northeastern Brazil, as there is a large population of them on the island of Fernando de Noronha,

356 km off the coast, and during movements between the island and continent losses may occur.

In 1984 G. Mattos, M. A. Andrade and M. V. Freitas (Andrade *et al.* 1986) found the first (and still the only) breeding place known of the Biscutate Swift: a colony situated in the Ibitipoca Mts in Minas Gerais, southeastern Brazil. The breeding season there is from October to the end of the year, the southern summer. The swifts arrive in Ibitipoca as early as August and stay there until February. There were estimated to be about 1200 individuals distributed over 15 caves, each cave harbouring a separate colony; ringed individuals returned in successive years.

At first, this appeared to be a very satisfactory solution to the riddle of the Biscutates from Seridó; but then we realized that the birds from Minas Gerais (and other places in southeastern Brazil) are bigger than the Seridó swifts. It is now clear that there are two different populations of the Biscutate Swift: a larger form in the south, nesting e.g. in Minas Gerais, and a smaller one, 'wintering' in northeastern Brazil, which we here describe as a new geographical race:

***Streptoprocne biscutata seridoensis* subsp. nov.**

*Type.* ♂, Serra do Bico da Arara, Acarí district, Seridó region, Rio Grande do Norte, Brazil (6°31'S, 36°38'W), altitude 600 m. Collected 5 August 1987 by G. Mattos, M. A. Andrade and M. V. Freitas. Deposited in the Museu Nacional, Rio de Janeiro, no. 36.897.

*Measurements.* Type: wing (flat) 187; tail 66 (a little abraded); tarsus 23; exposed culmen 9; total length 193 mm; weight 85 g. See also Table 1.

*Plumage.* Black, wings more sooty black. Feather shafts on back and rump brilliant. Collar on hindneck and pectoral patch white. Lores clear brown. Chin and upper throat whitish; feather shafts sooty brown. Male and female similar.

*Diagnosis.* Differs from *S. b. biscutata* by its smaller size. Wing measurements of the two races do not overlap. There is a wider range of tail measurements of *seridoensis* specimens in both sexes, but the mean values are lower in *seridoensis* (Table 1). The weights of *seridoensis* are mostly under 100 g (78 birds captured for ringing, August), those of *biscutata* more than 100 g (165 birds captured for ringing, Ibitipoca (21°42'S, 43°53'W, 1200–1700 m), August and January). The difference of size is also apparent from the smaller legs and feet of *seridoensis* individuals, which can be fitted with a smaller ring than *biscutata*.

*Range.* Known only from Rio Grande do Norte and Piauí, northeastern Brazil, as a migrant.

*Etymology.* From Seridó, a famous geographical name. It was in use as early as about 1679 (Lamartine 1980), together with Acarí, a small town at the base of the Serra do Bico da Arara ('macaw-bill mountains'), where the swift cave is located.

*Ecology.* Biscutate Swifts are associated with dry caves, unlike the White-collared Swift *S. zonaris*, which nests on wet cliffs, often behind waterfalls. These two large swifts can occur in the same area, as in the upper Itatiaia Mts, Rio de Janeiro, above the forested area around the bare mountains at c. 2500 m; but they do not associate.

TABLE 1  
Wing- and tail-length (mm) in the Biscutate Swift *Streptoprocne biscutata*

Sex	N	Range	WING Mean	S.D.	Range	TAIL Mean	S.D.
<i>S. b. biscutata</i>							
♂	6	200–211	206.8	4.07	64–70	67.3	2.33
♀	5	198–210	206.0	5.05	64–69	65.8	1.92
<i>S. b. seridoensis</i>							
♂	8	185–196	188.6	3.78	53–74	62.4	7.40
♀	15	172–193	182.8	6.59	53–72	59.8	5.88

Note. Specimens of *S. b. biscutata* from Ibitipoca (4) and Mariana (1, unsexed, wing 203, omitted from table), Minas Gerais; Teresópolis, Rio de Janeiro (1); Itararé, S. Paulo (1); Umbará (4) and F. Alegre (1), Paraná. Specimens of *S. b. seridoensis* from Seridó, Rio Grande do Norte (17); Paranaguá (3) and Caracol (3), Piauí.

**Additional remarks.** The Biscutate Swift is one more example from South America of the tendency for populations near the equator to be smaller in size than those at higher latitudes; other examples are known in, e.g., the Psittacidae (*Pionus maximiliani* and *Amazona vinacea*), Caprimulgidae (*Podager nacunda*, *Nyctidromus albicollis* and *Hydropsalis brasiliana*), Tyrannidae (*Onychorhynchus coronatus*), Thraupinae (*Euphonia chlorotica*), Emberizinae (*Oryzoborus angolensis*) and Cardinalinae (*Pitylus*). Such geographical variation warrants recognition in the nomenclature. We are still ignorant of the breeding range of the small Seridó swifts; perhaps it is in the region of the middle Rio São Francisco, Bahia. The large numbers occurring in Seridó suggest that birds from several colonies meet there during the non-breeding season.

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